European Materials HandlingFederation

Product Group Cranes and Lifting Equipment

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FEM CLE: Marking of Cranes, Hooks and Hook Blocks considering European Legislation

CONTENT

Legal Note: *The content of this guideline has been carefully researched but does not address each and every imaginable scenario, nor is it a binding interpretation of the existing legal framework. It does not and cannot replace the study of the relevant directives, laws and regulations or legal advice in individual cases. No liability is assumed for the correctness or completeness or for any changes that may occur in the meantime. In addition, the specific features of different products and their various applications have to be taken into account (see related operating instructions of the equipment used). Therefore, the assessments and procedures referred to in this paper may be impacted by a large variety of circumstances.*

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1. Introduction

In the market today, several different ways of marking hooks and hook blocks can be observed. Some of these markings are not compliant with EU legislation, especially the Machinery Directive (2006/42/EC), thus creating confusion and uncertainty amongst crane customers and other market participants.

This position paper aims to provide guidance on how to correctly mark cranes, hooks, hook blocks.[1]

2. Marking of cranes

Cranes incorporating hook and hook blocks fall under the scope of the Machinery Directive (see Article 1 (a) machinery) and therefore must be CE marked in accordance with the rules of the MD and pursuant to Article 5. It is the exclusive responsibility of the manufacturer of the crane to perform the conformity assessment, to issue the EU Declaration of Conformity, and to affix the CE marking on the complete crane.
Cranes shall be CE marked.

FEM recommends that the CE marking of the crane should be on an invariant part of the crane and not on the hook or hook block.

3. Marking of hooks and hook blocks

Hooks and hook blocks are often built according to standards. Typical standards available are DIN 15401, DIN 15402, DIN 15404 or BS 2903. Proof of competence for the hook should be made according to EN 13001-3-5 (*Limit states and proof of competence of forged hooks*) taking into account the applicable product standard and manufacturer provisions, according to the specific application. In these standards the correct hook marking is clearly defined.

According to the Blue Guide, a *"product may not be CE marked, unless it is covered by a Union harmonisation legislation providing for its affixing"*, CE marking is not specified for hooks in the Machinery Directive or another directive. Hook and hook block form part of the crane, as without hook and hook block the crane cannot perform a specific operation. Hook and hook block are not separate items in the scope of the MD. This has also been clarified by the Commission in § 43 of the MD Guide Version 2.2:

"Lifting machinery usually has a device for holding the load such as, for example, a hook. Such load holding devices incorporated into lifting machinery are not to be considered as lifting accessories."

According to Article 17 paragraph 1 affixing CE marking to products not covered by the MD leads to non-conformity.

[1] It should be noted that lifting accessories are placed between the machine (i.e. the hook in case of a crane) and the load and are not permanently attached to the crane. For this reason, they are also referred to as "under hook accessories" or "non-fixed load lifting accessories". In the Machinery Directive, lifting accessories are also designated by the term ‘machinery’ – used in the broad sense – and fall under the scope of the Machinery Directive (see Article 1 (1) (d).
Lifting Accessories shall be CE marked!

Hooks and hook blocks are therefore components of the crane and should not be CE marked.

CE Marking and related Declaration of Conformity (DoC) issuing is of importance not only to the common market, where it is legally binding, but also to export markets, where it is taken as a technical safety assurance and contractual document even if it is not legally required in such countries. Therefore, incorrect marking can lead to disturbances and **contractual issues.**

In order to correctly assess the safety and reliability of hooks and hook blocks, manufacturers may issue own certification different from the DoC, and any relevant certificates, proofs or similar documents according to the standards.

4. Detailed Analysis

Following questions help clarify if a Hook Block falls under the Machinery Directive 2006/42/EC and if CE marking is necessary.

Question 1: Is a hook or hook block "machinery" or a "partly completed machinery" according to the Machinery Directive 2006/42/EC?

No, a hook or hook block is not considered machinery or partly completed machinery according to the Machinery Directive. Article 2 of the Machinery Directive defines that *"[f]or the purpose of this Directive 'machinery' designates the products listed in Article (1) (a) to (f)."* Further explanations for each item are given in the cited sections of the Machinery Directive (MD) Guideline:

- (a) 'machinery' (see MD Guideline § 35, § 36, § 37, § 38, § 40, § 41)
- (b) 'interchangeable equipment' (see MD Guideline § 41)
- (c) 'safety component' (see MD Guideline, § 42
- (d) 'non-fixed load lifting accessories' (see MD Guideline: § 43)
- (e) 'chains, ropes and webbing' (see MD Guideline § 44)
- (f) 'removable mechanical transmission device': see MD Guideline: § 45

Article 2 also defines "partly completed machinery":
(g) 'partly completed machinery' (see MD Guideline: §46)

Conclusion 1: A hook or hook block does not meet the definition of Article 2 (a) to (f), therefore a hook block is not considered "machinery" according to the Machinery Directive. A hook or hook block also does not meet the criteria for "(g) partly completed machinery" according to the Machinery Directive and therefore is not considered a partly completed machinery.

Question 2: Is the Hook Block a "component" according to the Machinery Directive?

- *Yes, a hook block is a "component" according to the Machinery Directive. § 46 and 341 of the MD Guide explains this In detail:* Quotation § 46 (last para) *"The Machinery Directive does not apply as such to* ***separate machinery components or subassemblies*** *such as, for example seals, ball-bearings, pulleys, elastic couplings, solenoid valves, hydraulic cylinders, and the like, that do not have a specific application and that are intended to be incorporated into machinery; unless they fulfil one of the other definitions of products, e.g. a safety component, that are in the scope of the Machinery Directive by virtue of Art 2 (b) to (f), or are partly completed machinery as defined by Art. 2(g)." The complete machinery incorporating such components must comply with the relevant essential health and safety*

requirements. The machinery manufacturer must therefore choose components with adequate specifications and characteristics. ***Component manufacturers may provide customers with relevant technical documentation*** *to allow such subassemblies and components, to be installed correctly and safely.* ***As these items are not in the scope of the Machinery Directive, the component manufacturers are not required to provide any declarations of conformity*** *or to produce a technical file according to Annex VII or assembly instructions to Annex VI.*

- Quotation (further reading §341) *"Lifting machinery usually has a device for holding the load such as, for example,* ***a hook. Such load holding devices incorporated into lifting machinery are not to be considered as lifting accessories.*** *However, given the varied shape, size, and nature of the loads to be lifted, equipment is often placed between the holding device of the lifting machinery and the load, or on the load itself, in order to hold the load during the lifting operation. Such equipment is referred to as a lifting accessory. Products that are independently placed on the market to be incorporated into loads for this purpose are also considered as lifting accessories. Equipment placed between the holding device of lifting machinery and the load is considered as a lifting accessory, even if it is placed on the market with the lifting machinery or with the load."*

Conclusion 2: The Hook Block can be considered as a "separated component or subassembly" in the sense of the Machinery Directive 2006/42/EC and is therefore excluded from the Machinery Directive.
Hence, no CE Declaration of Conformity should be issued and no CE Marking should be applied.

Question 3: Is a harmonized Standard (hEN) available?

Yes, harmonized standards covering the proof of competence are available and are listed in the European Official Journal (OJEU):

- EN 13001-3-5:2016 – A1:2021 "Cranes - General design - Part 3-5: Limit states and proof of competence of forged and cast hooks"
- EN 13135:2013 – A1:2018: “Cranes – Safety – Design – Requirements for equipment”.

Question 4: Does EN 13001-3-5:2016 give additional information regarding "marking"?

EN 13001-3-5:2016 specifies requirements for the proof of competence of forged hooks, excluding hook blocks.
In Chapter 8.2 Marking EN 13001-3-5 recommends that hooks should be marked, however, in accordance with the Machinery Directive, CE-Marking is not foreseen:

- *"The hook body shall have a permanent marking positioned as item 2 in Figure 8 specifying the following: …*
  EXAMPLE A hook fulfilling the requirements of this European Standard, size and shape being in accordance with number 12 of A.1 and being made from material P should have a marking:
  - *EN 13001 —*
  - *RS12 P*
  - *Man xxxxxxxxx*

  … "
- Note: EN 13001-3-5 does not require a CE-marking.

Question 5: What happens to non-compliant products?

The MD Guide clarifies that non-compliant products with CE-marking must be withdrawn from the market:

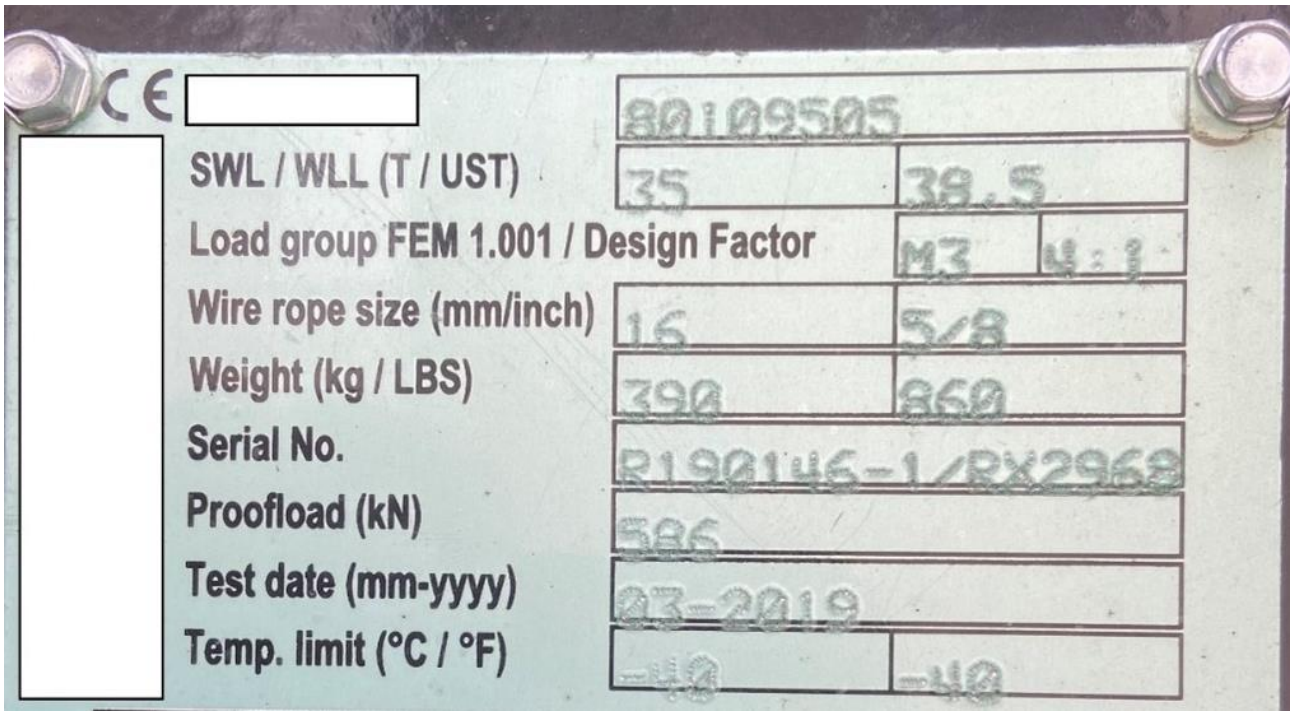
- § 109 Quotation (Extract): *"It should be underlined that the obligation set out in Article 7 (1) for the Member States to regard machinery bearing the CE-marking and accompanied by an EC Declaration of Conformity as complying with the Machinery Directive does not affect the duty of the Member States to carry out* ***market surveillance to ensure that products bearing the CE marking*** *and accompanied by an EC Declaration of Conformity really comply with the requirements of the Machinery Directive and their duty to* ***ensure that non-compliant products bearing the CE-marking are withdrawn from the market".***

5. Conclusion

The documents cited clearly lead to the above conclusions, that the CE marking of a hook or a hook block cannot be interpreted on the basis of the Machinery Directive. EU Member States, EU and National Market Surveillance Authorities are obligated to ensure the withdrawal of non-compliant products.

Annex: Examples

Incorrect CE marking on a hook block



Incorrect CE marking on a hook block